

ABSTRACT

A diesel particulate filter comprising a plugged, wall-flow honeycomb filter body composed of cordierite and having a plurality of parallel end-plugged cell channels traversing the body from a frontal inlet end to an outlet end thereof, wherein the filter exhibits a CTE (25-800°C) of less than $13 \times 10^{-7}/^{\circ}\text{C}$, a bulk filter density of less than 0.60 g/cm³, a median pore diameter, d_{50} , of less than 25 micrometers, a porosity and pore size distribution that satisfy the relationship $P_m \leq 3.75$, wherein P_m is equal to $10.2474\{1/[(d_{50})^2 (\% \text{porosity}/100)]\} + 0.0366183(d_{90}) - 0.00040119(d_{90})^2 + 0.468815(100/\% \text{porosity})^2 + 0.0297715(d_{50}) + 1.61639(d_{50}-d_{10})/d_{50}$, wherein d_{10} , and d_{90} are pore diameters at 10% and 90% of the pore size distribution on a volumetric basis, and $d_{10} < d_{50} < d_{90}$. A method of making the same is also provided.